

**Remarks/Arguments:**

Claims 1-15 are pending. Claim 16 is newly added.

Claims 1-15 stand rejected.

**Specification**

The title of the invention has been changed to "Method and Apparatus For Converting An Expression Using Key Words."

The term "voice recognition" has been objected-to. Applicants have now modified various pages of the specification to include the term "speech recognition" as a substitute for "voice recognition".

The Examiner has objected-to claim numbers being used in the specification at pages 7-15. Applicants respectfully submit that in a Preliminary Amendment, submitted on March 12, 2001, Applicants have deleted reference to claim numbers in the specification.

**Drawings**

Figures 1, 4, 6, and 8 have been amended to include the term "speech recognition" rather than "voice recognition".

Figure 6 has further been amended by adding the phrase of "with word error detection" to element 21, as requested.

Figure 8 has been labeled with the legend of "Prior Art".

Figures 9-1(a) to 9-2(e) have been renumbered as Figs. 9(a) to 9(e).

**Section 102 Rejections**

Claims 1-4, 6-8 and 10-15 have been rejected as being anticipated by Stentiford. Applicants respectfully submit that this rejection is overcome for reasons set forth below.

Applicants' invention, as recited in amended claim 14, includes features which are not anticipated or suggested by Stentiford, namely:

- (b) **storing predetermined key words of each bilingual sentence** stored in step (a) in the database;
- (c) **storing predetermined combinations of key words stored in step (b) as having a dependency relationship;**
- (e) extracting a plurality of key words from the sentence inputted in step (d);
- (f) **forming combinations of key words in accordance with step (b) from the key words extracted in step (e);**
- (g) matching each combination of key words formed in step (f) with the predetermined combinations of key words stored in step (c).

As shown, for example, in Fig. 2(a), a bilingual key word dictionary is stored in the data base. The **predetermined key words** are found and stored **for each bilingual sentence**. From the predetermined key words, step (c) stores **predetermined combinations of key words as having a dependency relationship**. The dependency relationship is shown in Fig. 2(a), for example.

Applicants note that the method of the invention, as recited in claim 14, stores **predetermined key words for each sentence in the data base and also stores predetermined combinations of key words having a dependency relationship based on each sentence by itself**. Thus, **the predetermined combinations of key words are based strictly on the key words in each sentence**.

Stentiford discloses a language translation system for translating phrases from a first language into a second language. The system stores a collection of phrases. Stentiford determines key words from the plurality of phrases. Stentiford describes an algorithm for selection of key words, at columns 3-4, using a criteria that a word which is used in many phrases is not selected and a word which is used in only a few phrases is selected. Thus, Stentiford suggests selecting key words in one sentence that is different from key words in another sentence. For example, consider the following two sentences:

P1: I make the people come.

P2: I know the people come.

If the number of words registered in the recognition dictionary (variable M in Stentiford's algorithm) is three, then the word "make" and "know" is always selected as key words. Any selected third word is not useful in distinguishing between P1 and P2. Stentiford's system depends strictly on recognizing P1 based only on the key word of "make".

In Applicants' invention, however, the key words of each sentence are selected and stored and then from the selected key words of each sentence, combinations of key words are selected. For example, for the same two sentences, P1 and P2, Applicants' invention selects the following combinations of key words, because they have a dependency relationship:

P1: I make the people come.  
(I, make) (make, people) (make, come)

P2: I know the people come.  
(I, know) (people, come)

Accordingly, the key words in P1 of "I," "make," "people," and "come" are selected. In addition, Applicants' invention selects combinations of key words in P1 which have a dependency relationship, namely: (I, make) (make, people) and (make, come). Applicants' invention is advantageous over Stentiford's system, because applicants have a greater likelihood of recognizing P1, since the invention uses three combinations of key words derived from the P1 sentence itself.

Stentiford, at column 4, lines 1-14, discloses that key pairs of words with various separations can be used to improve the effectiveness of the single key word set. Stentiford selects words, such as "-ing \* bed", where the asterisk can be any word between "ing" and "bed." Stentiford does **not** disclose **selecting key words from a sentence, and based only on the key words selected in that sentence, selecting combinations of key words.** Reconsideration of amended claim 14 is respectfully requested.

#### **Newly Added Claim 16**

Claim 16 further limits claim 14 by reciting:

- the **predetermined combinations of key words**, which have a dependency relationship, are **stored for each sentence itself.**

Stentiford does **not** disclose or suggest selecting combinations of key words from the **key words selected for each sentence itself.** Favorable consideration is requested for claim 16.

Although not the same, claims 1-4 and 7-8 have been amended to include features similar to amended claim 14. Amended claims 1-4 and 7-8 are not subject to rejection in view of the cited reference for the same reasons set forth for amended claim 14. Claims 6 and 10-15 depend from these independent claims and are, therefore, not subject to rejection in view of the cited reference for at least the same reasons set forth for the independent claims.

#### **Section 112 Rejections**

Claims 5 and 9 have been rejected as being indefinite. Applicants have now amended claims 5 and 9, so that they better define the invention. Favorable consideration is requested for amended claims 5 and 9.

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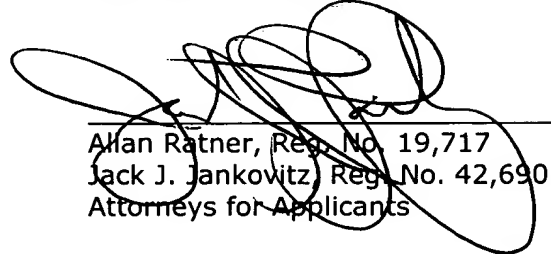
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**Conclusion**

Claims 1-15 are in condition for allowance.

Newly added claim 16 is also in condition for allowance.

Respectfully submitted,



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Attachments: Figures 1, 4, 6, 8, 9(a)-(e) (6 sheets)

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